

REMARKS

The Office Action dated July 13, 2007 and subsequent Advisory Action dated September 28, 2007 have been received and carefully noted. Further to the Response filed on July 13, 2007, the following remarks are submitted as a full and complete response thereto.

Claims 1-6 stand rejected and pending and under consideration.

REJECTION UNDER 35 U.S.C. § 102:

Claims 1, 2, 4, and 5 were rejected under 35 U.S.C. § 102 as being anticipated by U. S. Patent No. 5,802,494 to Kuno ("Kuno"). The Office Action took the position that Kuno describes all the recitations of independent claim 1 and related dependent claims. This rejection is traversed and reconsideration is requested.

Independent claim 1, upon which claims 2-6 are dependent, recites an image transmission system for a mobile robot, including a camera for capturing an image as an image signal, a microphone for capturing sound as a sound signal, and human detecting means for detecting a human from the captured sound. The system also includes a power drive unit for moving the robot toward the detected human, an image cut out means for cutting out an image of the detected human according to information from the camera; and image transmitting means for transmitting the cut out human image to an external terminal.

As will be discussed below, Kuno fails to disclose or suggest the elements of any of the presently pending claims.

Kuno does not teach or suggest, at least, “human detecting means for detecting a human from the captured sound” and “a power drive unit for moving the robot toward the detected human,” as recited in independent claim 1. On page 2 of the Advisory Action, it is contended that column 28, starting at line 57, Kuno provides a description of the human detecting means and the power drive unit of independent claim 1. However, the referred portion of Kuno simply provides “The robot 5 can have a language analyzer which analyzes the subject's spoken words detected by the speech recognizer, and generates speech signals representing suitable verbal responses. The speech synthesizer converts these signals into aural responses, which the subject can understand. In this case, the robot 5 is more friendly to the subject.” However, this portion appears to be detecting speech signals. There is no description or suggestion that the robot 5 detects the human from the captured sound and **moves** the robot toward **the detected human**. (Emphasis added). The language analyzer only captures and analyzes the human speech. The language analyzer of Kuno does not process the speech to then drive the robot 5 towards the patient. Instead, the robot 5 is positioned in front of or next to the patient so the facial features may be detected and monitored. The robot 5 is placed next to the patient, the robot 5 then captures facial features of the patient, and the robot 5 then would captures any sound signals, such as speech, from the patient to transmit them to a doctor for patient diagnosis.

On page 3 of the Advisory Action, it is contended that column 24 and 25, describes “a power drive unit for moving the robot toward the detected human,” as recited in independent claim 1. However, Applicants respectfully submit that it appears that the Office Action is not carefully considering the recitations of the present claims and not properly considering the actual description provided in Kuno. Specifically, column 24, from line 6, of Kuno is actually describing that the robot 5 can move its arms and hands, touching the bed or the subject. However, nothing in column 24 provides that the robot 5 has a driving mechanism to move the robot toward the detected human. As submitted above, the robot 5 is placed by a human in front of the patient.

The Advisory Action also contends on page 4 that “the recitations in the present claim do not specify that the robot is self-controlled, but only that the robot possesses ‘a power control unit for moving the robot toward the detected human.’” However, Applicants respectfully submit that as a general proposition, claim limitations are to be interpreted in light of its broadest reasonable interpretation. In re Prater, 162 USPQ 541, 550-51 (CCPA 1969), cited with approval, In re Morris, 44 USPQ2d 1023, 1028 (Fed. Cir. 1997). As clearly recited in the claims and described in the specification of the present application, the power control unit moves the robot toward the detected human. Accordingly, Applicants respectfully traverse the contentions made in the Advisory Action.

Based on this description of Kuno, on page 14 of the Final Office Action, it was erroneously concluded that “once the robot has recognized aural “approval,” the robot

then uses the power drive unit to move its hand towards the patient.” However, Kuno does not support such conclusion reached in the Office Action. Rather, Kuno clearly provides that the robot 5 includes a drive mechanism which is remote controlled and under the control of the monitor section 2. Thus, a human operator is actually controlling the movement of the robot 5. The robot 5 of Kuno is not moved based on the detected human, detected from the captured sound as in independent claim 1. Once the operator positions the robot 5 of Kuno by remote controlled in front of the patient, the robot 5 then captures facial features of the patient, and the robot 5 then would captures any sound signals, such as speech, from the patient to transmit them to a doctor for patient diagnosis.

In short, the robot of the Kuno patent may do whatever is required to monitor a hospitalized subject and observes the face features of the subject, but does not approach the subject to face him and take a picture. Therefore, Kuno also does not teach or suggest, at least, “an image cut out means for cutting out an image of the detected human according to information from the camera,” as recited in independent claim 1.

Accordingly, it is respectfully asserted that Kuno fails to teach or suggest all the recitations of independent claim 1 and related dependent claims 2-6. It is respectfully requested that the rejection to the claims be withdrawn.

REJECTION UNDER 35 U.S.C. § 103:

Claims 1, 2, 5, and 6 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Publication No. 2004/0028260 to Higaki et al. ("Higaki") and Kuno. The Office Action took the position that Higaki and Kuno disclose all the aspects of claims 1, 2, 5, and 66. The rejection is traversed and reconsideration is requested.

The Advisory Action did not address the arguments submitted in the Response filed on September 13, 2007 supporting the patentability of the claims in view of Higaki and Kuno. Applicants hereinbelow resubmit these arguments for consideration and it is respectfully requested that these arguments be properly addressed.

As will be discussed below, Higaki and Kuno fail to disclose or suggest the elements of any of the presently pending claims.

Because the combination of Higaki and Kuno must teach, individually or combined, all the recitations of the base claim and any intervening claims of the dependent claims, the arguments presented above supporting the patentability of independent claim 1 over Kuno are incorporated herein.

Higaki generally describes a posture recognition apparatus recognizing instructions signified by postures of persons present in the surrounding from images obtained with an image capture device. According to the Office Action, paragraph [0041] of Higaki provides "human detecting means for detecting a human from the captured sound" and "a power drive unit for moving the robot toward the detected

human," as recited in independent claim 1. However, paragraph [0041] of Higaki, similarly to other portions of this reference, fails to teach or suggest these recitations of independent claim 1.

For instance, paragraph [0041] of Higaki describes FIG. 1 as a block diagram showing the configuration of the embodiment. In this figure, reference symbols R denotes a biped walking autonomous robot. Reference symbols 1L and 1R denote stereo cameras (hereunder called simply cameras) employing 2-color CCDs, with L and R denoting the left side camera and the right side camera respectively. Reference symbol 21 of Higaki denotes a microphone that picks up the voice of a person speaking. Reference symbol 5 denotes a processing section which performs a posture recognition process employing mainly image processing. Reference symbol 71 denotes a setting file in which the relationships between human postures and corresponding instructions are pre-defined. Reference symbol 72 denotes a face database in which human facial recognition information is predefined. Reference symbol 9 denotes an action control section that controls the drive parts (head, arms, legs etc.) of the autonomous robot R.

However, contrary to the contentions made in the Office Action, there is no teaching or suggestion providing human detecting means for detecting a human from the captured sound and a power drive unit for moving the robot toward the detected human. Rather, Higuki appears to provide a search device that searches for a candidate for a hand of a person based on the outline and the distance to the body represented by the outline.

For the reasons previously set forth, Kuno would not cure the deficiencies of Higaki. Accordingly, a combination of both references would fail to teach or suggest all the recitations of independent claim 1. It is therefore respectfully requested that all of claims 1, 2, 5, and 6 be allowed, and that this application be passed to issue.

In the Office Action, at page 10, claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Higaki, Kuno, and further in view of U.S. Publication No. 2000/326274 to Shinichi (“Shinichi”). The Office Action took the position that Higaki, Kuno, and Shinichi disclose all the aspects of claim 3. The rejection is traversed and reconsideration is requested.

The Advisory Action did not address the arguments submitted in the Response filed on September 13, 2007 supporting the patentability of the claims in view of Higaki, Kuno, and Shinichi. Applicants hereinbelow resubmit these arguments for consideration and it is respectfully requested that these arguments be properly addressed.

As will be discussed below, Higaki, Kuno, and Shinichi fail to disclose or suggest the elements of any of the presently pending claims.

Because the combination of Higaki, Kuno, and Shinichi must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claim 3, the arguments presented above supporting the patentability of independent claim 1 over Higaki and Kuno are incorporated herein.

Shinichi generally describes an acting robot in which an image input device 1 inputs an image of one of cameras of a stereo-camera to a man detecting device 2, and inputs the images of both cameras to a distance calculating device 3. The man detecting device 2 detects a man by image processing, and extracts a face area of the man to follow up the face area thereafter. A man distinguishing device refers the information on an image of the man stored in a man information storing part 5, and a voice input device 6 consists of three microphones attached to a body, and outputs the inputs to a voice source direction detecting device 7. An obstacle detecting device 10 calculates a distance value to an obstacle of every ultrasonic wave sensor 9 and holds the same, and a touch sensor 11 distinguishes a rubbed state and a tapped state and outputs the same.

However, Shinichi does not cure the deficiencies of Higaki and Kuno. Similarly to Higaki and Kuno, Shinichi does not teach or suggest, at least, “human detecting means for detecting a human **from the captured sound**” and “a power drive unit for moving the robot toward the detected human,” emphasis added, as recited in independent claim 1. Rather, from the description and figures provided in Shinichi, the image input device 1 inputs the image of one of cameras of a stereo-camera to a man detecting device 2, and inputs the images of both cameras to a distance calculating device 3. Similarly to Higanki and Kuno, there is no description or suggestion in Shinichi that the distance calculating device 3 is capable of detecting a human from captured sound and providing a power drive unit that would move the robot towards the patient.

Accordingly, it is respectfully asserted that Kuno and Shinichi fail to teach or suggest all the recitations of independent claim 1 and related dependent claim 3. It is respectfully requested that the rejection to the claims be withdrawn.

In the Office Action, at page 10, claim 4 was rejected under 35 U.S.C. § 103 as being unpatentable over Higaki, Kuno, and further in view of U.S. Patent No. 6,278,904 to Ishii ("Ishii"). The Office Action took the position that Higaki, Kuno, and Ishii disclose all the aspects of claim 4. The rejection is traversed and reconsideration is requested.

The Advisory Action did not address the arguments submitted in the Response filed on September 13, 2007 supporting the patentability of the claims in view of Higaki, Kuno, and Ishii. Applicants hereinbelow resubmit these arguments for consideration and it is respectfully requested that these arguments be properly addressed.

As will be discussed below, Higaki, Kuno, and Ishii fail to disclose or suggest the elements of any of the presently pending claims.

Because the combination of Higaki, Kuno, and Ishii must teach, individually or combined, all the recitations of the base claim and any intervening claims of dependent claim 4, the arguments presented above supporting the patentability of independent claim 1 over Higaki and Kuno are incorporated herein. Ishii, in turn, generally describes a floating device allowing an entire robot main body to float at a side.

However, Ishii does not cure the deficiencies of Higaki and Kuno. Similarly to Kuno, Ishii is devoid of any teaching or suggestion providing, at least, “human detecting means for detecting a human from the captured sound” and “a power drive unit for moving the robot toward the detected human,” as recited in independent claim 1. Contrary to the contentions made in the Office Action, in view of the descriptions of Higaki and Kuno, a person of ordinary skill in the art would not be motivated to combine the floating device of Ishii with Higaki and Kuno.

MPEP 2143.01(V) states “THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE,” (Capital letters in original.) and explains that “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” Moreover, MPEP 2145(III) states that “the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose.” The proposed combination of Higaki, Kuno, and Ishii would change the fundamental principles of Higaki’s and Kuno’s operation, and, thus, is per se non-obvious under MPEP 2143.01(V).

It is evident that Kuno’s patient monitoring system and Higaki’s posture recognition apparatus could not be configured to add a mechanism allowing a patient to float in the water and having an entire main body to float at a side as provided in Ishii.

Accordingly, the proposed combination is improper, unmotivated hindsight reconstruction.

Accordingly, Applicants respectfully request that the rejection of claim 4 be withdrawn because the combination is per se non-obvious and because there is no proper motivation to combine the references, and thus a *prima facie* case of obviousness has not been established.

CONCLUSION:

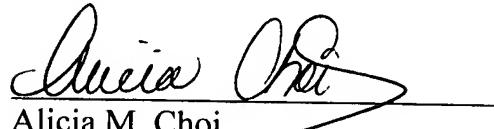
In view of the above, Applicants respectfully submit that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicants further submit that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicants therefore respectfully request that each of claims 1-6 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicants respectfully petition for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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